



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,708	02/03/2004	Christian Gartner	100727-63/ Heraeus 414	1315
27384	7590	01/08/2010		
Briscoe, Kurt G. Norris McLaughlin & Marcus, PA 875 Third Avenue, 8th Floor New York, NY 10022			EXAMINER SINGH, SUNIL K	
			ART UNIT 3732	PAPER NUMBER
			MAIL DATE 01/08/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/770,708	<b>Applicant(s)</b> GARTNER ET AL.	
	<b>Examiner</b> Sunil K. Singh	<b>Art Unit</b> 3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 18-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. After further consideration, the election/restriction requirement mailed out on 08/03/2009 has been withdrawn. Claims 18-26 are pending.

### ***Specification***

2. The amendment filed 07/28/2008 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The applicant has amended the phrase "dental prostheses" to "denture teeth." Denture teeth further limits the specification from the original broad dental prostheses and does have proper support in the specification as originally filed.

Applicant is required to cancel the new matter in the reply to this Office Action.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 3732

3. Claim 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Thomas (US 7,153,135). Thomas discloses a method and corresponding system for carrying out said method of creating a dental prosthesis comprising scanning a patient's teeth (column 10, lines 10-14); recording and digitizing 3-D anatomical relationships in an oral cavity (i.e. step 20); and processing the data (i.e. digital map Q) received from the anatomical relationships in such a way that relevant anatomical structures for virtual placement of teeth (i.e. digital map M) are securely affixed so that a complete virtual model (i.e. merged image N) can be obtained for direct manufacture of a denture base according to the digital data (column 12, lines 1-3 and column 14, lines 51-55). Thomas also discloses the step of simulating mandibular movements on a computer by providing various views (i.e. R) as a positioning aid (column 13, lines 45-49). Thomas additionally discloses the prosthesis can be rapid prototyped (column 10, lines 53-57). Examiner further notes that the scanning of the patient's oral cavity includes the entire cavity (column 13, lines 14-19), wherein occlusion rims and bite rims are held in the art as equivalent structures since occlusion is defined as the way the upper and lower teeth bite together.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 19,22,25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas in view of Dillier (US 2002/0110786)

Thomas discloses the invention substantially as claimed except for a method that includes: scanning fabricated teeth to produce 3D data records of fabricated teeth; selecting fabricated teeth from 3D data records; and virtually placing the teeth into the virtual model.

Dillier teaches a method of manufacturing a dental prosthesis (abstract) that includes: scanning fabricated teeth to produce 3D data records of fabricated teeth; selecting fabricated teeth from 3D data records; and virtually placing the teeth into the virtual model [0045] (see claim 8). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Thomas to include the method taught by Dillier, in order to provide a method of manufacturing a dental prosthesis that is less error prone and easier to automate.

5. Claim 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas in view of Dillier as applied to claim 19 above, and further in view of Baumrind (US 6,621,491).

Thomas/Dillier discloses a method of creating a dental prosthesis as previously described but fails to show that an oral situation is recorded directly using a 3-D camera. Baumrind, however, teaches a method for recording 3-D diagnostic data of an oral situation using a 3-D camera (30, Figure 1; col 3, ln 35-40 and 48-51). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the

Art Unit: 3732

applicant's invention to record an oral situation using a 3-D camera in order to provide a holistic view of the patient for treatment purposes as taught by Baumrind.

6. Claim 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas in view of Dillier as applied to claim 19 above, and further in view of Chishti (US 5,975,893).

Thomas/Dillier discloses a method of creating a dental prosthesis as previously described but fails to show scanning a plaster model. Chishti, however, teaches scanning a plaster cast of teeth to obtain 3-D data (col 5, ln 38-48). Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to scan a plaster model so that the patient is not exposed to X-rays as taught by Chishti.

7. Claims 23,24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas in view of Dillier as applied to claim 19 above, and further in view of Jordan et al. (US 6,152,731).

Thomas/Dillier discloses the method of creating a dental prosthesis as previously described but fails to show the step of inspecting function and occlusion on the computer. Jordan, however, teaches a method for creating a dental model whereby occlusion of a virtual model is inspected on the computer (col 23, ln 62-64). Therefore, it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to inspect function and occlusion of the digitized virtual model as

Art Unit: 3732

taught by Jordan in order to test it to ensure it has been created properly and is in working order. As to claim 24, Jordan further discloses the placement of teeth is manually corrected and a new calculation is performed to adapt to the bite and occlusion data (col 21, ln 17-45).

### ***Response to Arguments***

8. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

9. Applicant's arguments filed 04/23/2009 have been fully considered but they are not persuasive. Applicant argues that Thomas does not disclose processing module that performs the function in step d of claim 18. However, the Examiner disagrees. The Examiner points out Column 13, Lines 15-35 that discloses such a processing module. Furthermore, the examiner points out the claim 18 is an apparatus claim. Thus the intended use is not given patentable weight. As long as the prior art meets the structural limitations and is capable of performing the function, then the prior art meets the limitation as claimed.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 Form.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sunil K. Singh whose telephone number is (571) 272-3460. The examiner can normally be reached on Monday-Friday (Increased Flex Schedule).

Art Unit: 3732

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris L. Rodriguez can be reached on (571) 272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

12/29/2009

/Sunil K Singh/  
Examiner, Art Unit 3732

/Cris L. Rodriguez/  
Supervisory Patent Examiner, Art Unit 3732